Coding jobs

Automatically creating/placing waypoints :

Preparation: Calculate relative positions of waypoints. E.g. 0% of the image length removed from the left, 50% removed from the top, defines a point in the middle of the left side of a square.

1. Get panel size
2. Hardcode create waypoints at the calculated distances from the top left corner of the panel
3. Waypoints should be connected to other waypoints according to the image
4. Do the same code used for 2 and 3 but oriented from the bottom right instead so it’s symmetrical.
5. North East South West \*starting waypoints\* should be stored as a property of Crossing
6. \*ending waypoints\* should have a property to define whether they are north east south or west

This code should be done in Crossing.cs

Drawing cars

Drawing should actually be done per crossing but the functionality works

Creating data hooks :

1. In the Car class, cars collect new waypoints when they have reached their target.
2. If the waypoint that is retrieved has no next waypoint ->
3. Add a record to a list that has the in-simulation time and carID (this list is probably best stored as part of the waypoint class itself)

Cars moving to waypoints : DONE Alex -> needs to be adapted to work with non-pictureboxes

Connect waypoints from different crossings :

1. Crossings need a property for a starting waypoint in every direction
2. When a car is added, they should be put onto the right waypoint
3. The right waypoint being, the inverse of the waypoint the car left the other crossing from (if the car left waypoint A on the north branch it arrives at B on the south branch).

Create a way to determine the location a car needs to be waiting at :

1. A property that defines how many cars are waiting at a certain waypoint.
2. For every n cars waiting, a car that gets assigned that waypoints should instead get assigned a \*new waypoint\* (carlength + a few pixels) \* n pixels in the direction where the car is coming from. How you determine this direction is not set
3. When cars stop waiting their next waypoint should be the initial waiting point

Create a way to determine when cars should be waiting :

1. Waypoints should have a property that makes cars wait at them or not. This value should be modifiable by a trafficlight class.
2. while cars are waiting they do not retrieve their next waypoint and their speed becomes zero after reaching their point.

Create a way to Generate a Car at crossing branches that are not in the direction of other crossings:

Requires directional waypoint properties and connected crossings first

Bonus task figure out why the cars are flickering and how to stop it.

Bonus task image resizing code so the background doesn’t need to flicker constantly.